

Intermediate Software Testing Techniques (3 Days)

This course is designed for software testers that want to go deeper than the basic concepts. Attendees will learn how to create an effective test strategy, how to design creative test cases, how to optimize test cases to get the most testing from the fewest number of cases and how to measure and report the results of testing.

Attendees will leave this course with a solid foundation for testing in situations which are very diverse and dynamic.

This course is centered around a common case study which builds throughout the course.

Intermediate Software Testing Techniques will help you reach the next level in your testing skills. You will emerge from this three-day session knowing how to plan and conduct tests in diverse and complex environments.

Objectives

This course will build on basic testing principles and introduce new methods to teach testers how to:

- Describe the major software development lifecycles and how testing fits into those methodologies
- Develop a test strategy
- Write a high-level test plan
- Develop test scripts and test cases using a wide variety of techniques
- Create decision tables
- Get the most testing from the least number of test cases
- Track and control test scripts and cases
- Assess risk from the project, technical and business perspectives
- Describe which tools are the best to use in a particular test
- Describe effective test tools available
- Write meaningful test reports
- Measure your testing efforts
- Use the results from testing to improve the testing process and other processes

Who Will Benefit

- Test analysts
- Testers
- Test engineers
- Software developers
- Project managers
- Test lab managers
- QA analysts

Module STBD - Test Planning Overview: Strategies and Tactics (1.5 hrs.)

- Basic Testing Principles
- Why Is It Important That Testing Uses A Process?
- Process Benefits
- The V Diagram
- What is a Test Strategy?
- The Components and Format of a Test Strategy
- Identifying Critical Success Factors
- Sample Test Strategy
- Defining Test Objectives
- Sample Test Objectives
- Major Elements of a Test Plan
- Planning Time Guidelines
- Tips for Test Planning

Module ISTA - Intermediate Test Design Strategies (1.5 hrs.)

- How Much Effort Should Be Dedicated to Test Design and Types?
- Tests by Type of Project
- Test Case Economy
- How to Match the Test to the Project and Test Stage
- Rules for Test Applicability
- Producer Testing
- Customer Testing
- Automated Test Strategies
- Test Cases
- Types of Test Cases
 - Functional and Structural Test Cases
 - Regression Test Cases
 - Security Test Cases
 - Performance Test Cases
 - Interoperability Test Cases
 - Portability Test Cases
 - Usability Test Cases
 - Scalability Test Cases
 - End-to-end Testing
 - Batch Test Cases
 - Conversion Test Cases
 - Link Test Cases
 - Browser Test Cases
 - Exploratory Testing
 - Parallel Test Cases
 - Vendor Test Cases
 - Test Cases by Phase

Module ISTB - Intermediate Test Case Design Techniques (6 hrs.)

- Orthogonal Arrays
- Decision Tables
- Cause-Effect Graphing
- Test Cases from Use Cases
- Functional Test Cases – Requirements-based Cases
- Tests Based on Business Scenarios
- Functional Test Cases – Behavioral

Module UATD - Risk Assessment (1 hr.)

- What is Risk?
- The Nature of Risk
- The Three Views of Risk
- The Elements of Risk
- Risk Assessment
- Why is Risk Assessment Important?
- Computer System Risks
- Three Views of Project Risk
- Assessing Technical Risks
- Assessing Business Risk
- Sample Business Risk Chart
- How Can This Information Be Used?
- When is Testing Complete?
- A Problem in Risk-Based Testing – Cases that Span Risk Levels
- When is Risk Assessment Performed?
- Who Performs Risk Assessment?
- Who Owns Risk Assessment?
- Additional Resources

Module IQAF - Test Tool Overview (1 hr.)

- Working Definition of a Test Tool
- Risks of Not Automating Testing
- Risks of Automating Testing
- The Role of Test Tools
- Manual Testing
- Automated Testing
- The Major Issues
- “Top 10” Test Tools
- Interactive Test/Debug
- Capture/Playback
- Version Control
- Stress and Load Testing
- Defect Tracking
- Memory Testing
- Test Management
- Coverage Analyzers and Thread Testers
- Checklists
- Critical Success Factors
- Closing Thought

Module ISTD - Performance Testing (1.25 Hrs.)

- Key Concerns
- The Challenge
- Hitting the Performance Wall
- Performance Testing
- Terminology
- Prerequisites
- Type of Technology
- Manual vs. Automated Tools
- Memory Leaks

Module ISTF - Intermediate Test Evaluation and Analysis (1.5 hrs.)

- Test Evaluation Workbench
- An Evaluation Toolkit
- A Testing Dashboard
- Statistical Methods
- How to Measure Test Coverage
- How to Capture Test Results
- How to Manage the Level of Measurement Intrusiveness
- Comparison Tools and Techniques
- How to Build a Robust Testing Baseline
- Regression Testing – Comparing to a Baseline
- How to Create and Maintain Baseline Test Data
- Test Baseline Data Cycle
- Regression Testing – Maintaining the Baseline
- How to Analyze and Make Sense of Test Results
- Comparison to the Baseline: Correctness
- Tracking to Current Project Goals
- Comparison to Past Projects
- Comparison to Estimates
- How to Present Complex Information in Understandable Ways
- Continually Improving the Process
- The Goal/Question/Metric Paradigm
- Identifying Needs and Goals
- Answering the Right Questions
- Critical Success Factors
- Exercise - Develop Your Own Action Plan for Improvement

Module TTLF - Metrics and Measurements (1 Hr.)

- Terminology
- Valuable Test Measurements & Metrics
- Benefits of Testing Metrics and Measurements
- What Needs to be in Place to Capture Measurements and Metrics
- Tools and Techniques for Measuring Testing Activities
- Why Track Defects?
- Tracking and Understanding Defect Trends
- The Role of the Defect Administrator

Module STBI - Test Evaluation and Reporting (1 hr.)

- Prerequisites for Test Evaluation
- Test Evaluation and Reporting Process
- What Test Reporting Should Be
- Types of Test Reporting
- System Test Evaluation - Defect Reporting
- The Defect Life Cycle
- Defect Tracking - Things You Need to Know
- Sample Defect Categories
- Sample Defect Priorities
- Status Reporting
- Final Reporting
- Test Summary Report
- How Can This Data be Used?